

THE UNITED STATES OF AMERICA

Pioneer Hi-Bred International, Inc.

Secretary of Agriculture

NOW, THEREFORE, THIS CERTIFICATE OF PLANT VARIETY PROTECTION IS TO GRANT UNTO THE SAID APPLICANT(S) AND THE SUCCESSORS, HEIRS OR ASSIGNS OF THE SAID APPLICANT(S) FOR THE TERM OF TWENTY YEARS FROM THE DATE OF THIS GRANT, SUBJECT TO THE PAYMENT OF THE REQUIRED FEES AND PERIODIC REPLISHMENT OF VIABLE BASIC SEED OF THE VARIETY IN A PUBLIC REPOSITORY AS PROVIDED BY LAW, THE RIGHT TO EXCLUDE OTHERS FROM SELLING THE VARIETY, OR OFFERING IT FOR SALE, OR REPRODUCING IT, OR PROPAGATING IT, OR EXPORTING IT, OR CONDITIONING IT FOR PROPAGATION, OR STOCKING IT FOR ANY OF THE FOREGOING PURPOSE, OR USING IT IN PRODUCING A HYBRID OR DIFFERENT VARIETY THEREFROM, TO THE EXTENT PROVIDED BY THE PLANT VARIETY PROTECTION ACT, (84 STAT. 1542, AS AMENDED, 7 U.S.C. 2321 ET SEQ.)

'93B72'

In Testimony Whereof, I have hereunto set my hand and caused the seal of the Plant Variety Protection Office to be affixed at the City of Washington, D.C. this eighth day of May, in the year of our Lord two thousand one.

Attest:

Alan R. Post

Acting Commissioner
Plant Variety Protection Office
Agricultural Marketing Service

Verenon

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U.S. DEPARTMENT OF AGRICULTURE
AGRICULTURAL MARKETING SERVICE
SCIENCE AND TECHNOLOGY - PLANT VARIETY PROTECTION OFFICE

APPLICATION FOR PLANT VARIETY PROTECTION CERTIFICATE
(Instructions and information collection burden statement on reverse)

The following statements are made in accordance with the Privacy Act of 1974 (5 U.S.C. 552a) and the Paperwork Reduction Act (PRA) of 1995.

Application is required in order to determine if a plant variety protection certificate is to be issued (7 U.S.C. 2421). Information is held confidential until certificate is issued (7 U.S.C. 2426).

1. NAME OF OWNER Pioneer Hi-Bred International, Inc.		2. TEMPORARY DESIGNATION OR EXPERIMENTAL NAME 	2. VARIETY NAME 93B72
4. ADDRESS (Street and No., or R.F.D. No., City, State, and ZIP Code, and Country) 7300 N. W. 62 nd Avenue P. O. Box 1004 Johnston, IA 50131		5. TELEPHONE (include area code) 515-254-2638	FOR OFFICIAL USE ONLY PVPO NUMBER <div style="font-size: 2em; font-weight: bold;">20010007</div> FILING DATE <div style="font-size: 1.5em; font-family: cursive;">January 18, 2001</div>
6. IF THE OWNER NAMED IS NOT A "PERSON", GIVE FORM OF ORGANIZATION (corporation, partnership, association, etc.) Corporation		6. FAX (include area code) 515-253-2288	
7. IF THE OWNER NAMED IS NOT A "PERSON", GIVE FORM OF ORGANIZATION (corporation, partnership, association, etc.) Corporation	8. IF INCORPORATED, GIVE STATE OF INCORPORATION Iowa	9. DATE OF INCORPORATION May 6, 1926	
10. NAME AND ADDRESS OF OWNER REPRESENTATIVE(S) TO SERVE IN THIS APPLICATION. (First person listed will receive all papers) <div style="display: flex; justify-content: space-between;"> <div style="width: 45%;"> Daria Schmidt, Ph.D. 7300 NW 62nd Ave. P.O. Box 1004 Johnston, Iowa 50131-1004 </div> <div style="width: 45%;"> Jean Bromert (copy) 7100 NW 62nd Ave. P. O. Box 1000 Johnston, Iowa 50131-1000 </div> </div>			FILING AND EXAMINATION FEES: <div style="font-size: 1.2em;">\$ 2705 -</div> DATE <div style="font-size: 1.2em; font-family: cursive;">Jan. 18, 01</div> CERTIFICATION FEE: <div style="font-size: 1.2em;">\$ 329.00</div> DATE <div style="font-size: 1.2em; font-family: cursive;">4/13/01</div>
11. TELEPHONE (include area code) 515-254-2638	12. FAX (include area code) 515-253-2288	13. E-MAIL schmidtah@phibred.com	14. CROP KIND (Common Name) Soybean
18. CHECK APPROPRIATE BOX FOR EACH ATTACHMENT SUBMITTED (Follow instructions on reverse) a. <input checked="" type="checkbox"/> Exhibit A. Origin and Breeding History of the Variety b. <input checked="" type="checkbox"/> Exhibit B. Statement of Distinctness c. <input checked="" type="checkbox"/> Exhibit C. Objective Description of Variety d. <input checked="" type="checkbox"/> Exhibit D. Additional Description of the Variety (Optional) e. <input checked="" type="checkbox"/> Exhibit E. Statement of the Basis of the Owner's Ownership f. <input checked="" type="checkbox"/> Voucher Sample (2,500 viable untreated seeds or, for tuber propagated varieties, verification that tissue culture will be deposited and maintained in an approved public repository) g. <input checked="" type="checkbox"/> Filing and Examination Fee (\$2,705), made payable to "Treasurer of the United States" (Mail to the Plant Variety Protection Office)		19. DOES THE OWNER SPECIFY THAT SEED OF THIS VARIETY BE SOLD AS A CLASS OF CERTIFIED SEED? See Section 83(a) of the Plant Variety Protection Act) <div style="display: flex; justify-content: space-between;"> <input type="checkbox"/> YES (If "yes", answer items 20 and 21 below) <input checked="" type="checkbox"/> NO (If "no," go to item 22) </div>	
22. HAS THE VARIETY (INCLUDING ANY HARVESTED MATERIAL) OR A HYBRID PRODUCED FROM THIS VARIETY BEEN SOLD, DISPOSED OF, TRANSFERRED, OR USED IN THE U. S. OR OTHER COUNTRIES? <div style="display: flex; justify-content: space-between;"> <input type="checkbox"/> YES <input checked="" type="checkbox"/> NO </div> IF YES, YOU MUST PROVIDE THE DATE OF FIRST SALE, DISPOSITION, TRANSFER, OR USE FOR EACH COUNTRY AND THE CIRCUMSTANCES. (Please use space indicated on reverse.)		20. DOES THE OWNER SPECIFY THAT SEED OF THIS VARIETY BE LIMITED AS TO NUMBER OF CLASSES? <input type="checkbox"/> YES <input type="checkbox"/> NO IF YES, WHICH CLASSES? <input type="checkbox"/> FOUNDATION <input type="checkbox"/> REGISTERED <input type="checkbox"/> CERTIFIED 21. DOES THE OWNER SPECIFY THAT THE CLASSES BE LIMITED AS TO NUMBER OF GENERATIONS? <input type="checkbox"/> YES <input type="checkbox"/> NO IF YES, SPECIFY THE NUMBER 1, 2, 3, etc. <input type="checkbox"/> FOUNDATION <input type="checkbox"/> REGISTERED <input type="checkbox"/> CERTIFIED (If additional explanation is necessary, please use the space indicated on the reverse.)	
23. IS THE VARIETY OR ANY COMPONENT OF THE VARIETY PROTECTED BY INTELLECTUAL PROPERTY RIGHT (PLANT BREEDER'S RIGHT OR PATENT)? <div style="display: flex; justify-content: space-between;"> <input checked="" type="checkbox"/> YES <input type="checkbox"/> NO </div> IF YES, GIVE COUNTRY, DATE OF FILING OR ISSUANCE AND ASSIGNED REFERENCE NUMBER. (Please use space indicated on reverse.)		24. The owners declare that a viable sample of basic seed of the variety will be furnished with application and will be replenished upon request in accordance with such regulations as may be applicable, or for a tuber propagated variety a tissue culture will be deposited in a public repository and maintained for the duration of the certificate. The undersigned owner(s) is(are) the owner of this sexually reproduced or tuber propagated plant variety, and believe(s) that the variety is new, distinct, uniform, and stable as required in Section 42, and is entitled to protection under the provisions of Section 42 of the Plant Variety Protection Act. Owner(s) is(are) informed that false representation herein can jeopardize protection and result in penalties.	
SIGNATURE OF OWNER <div style="font-size: 1.5em; font-family: cursive;">Daria H. Schmidt</div>		SIGNATURE OF OWNER 	
NAME (Please print or type) Daria H. Schmidt		NAME (Please print or type) 	
CAPACITY OR TITLE Director, Associative Genetics/Technology Integration	DATE <div style="font-size: 1.5em; font-family: cursive;">1/17/01</div>	CAPACITY OR TITLE 	DATE

GENERAL: To be effectively filed with the Plant Variety Protection Office (PVPO), ALL of the following items must be received in the PVPO: (1) Completed application form signed by the owner; (2) completed exhibits A, B, C, E; (3) for a seed reproduced variety at least 2,500 viable untreated seeds, for a hybrid variety at least 2,500 untreated seeds of each line necessary to reproduce the variety, or for tuber reproduced varieties verification that a viable (in the sense that it will reproduce an entire plant) tissue culture will be deposited and maintained in an approved public repository; (4) check drawn on a U.S. bank for \$2,705 (\$320 filing fee and \$2,385 examination fee), payable to "Treasurer of the United States" (See Section 97.6 of the Regulations and Rules of Practice.) Partial applications will be held in the PVPO for not more than 90 days, then returned to the applicant as unfilled. Mail application and other requirements to Plant Variety Protection Office, AMS, USDA, Room 500, NAL Building, 10301 Baltimore Avenue, Beltsville, MD 20705-2351. Retain one copy for your files. All items on the face of the application are self explanatory unless noted below. Corrections on the application form and exhibits must be initialed and dated. **DO NOT** use masking materials to make corrections. If a certificate is allowed, you will be requested to send a check payable to "Treasurer of the United States" in the amount of \$320 for issuance of the certificate. Certificates will be issued to owner, not licensee or agent.

Plant Variety Protection Office

Telephone: (301) 504-5518

FAX: (301) 504-5291

Homepage: <http://www.ams.usda.gov/science/pvp.htm>

ITEM

- 18a. Give: (1) the genealogy, including public and commercial varieties, lines, or clones used, and the breeding method;
(2) the details of subsequent stages of selection and multiplication;
(3) evidence of uniformity and stability; and
(4) the type and frequency of variants during reproduction and multiplication and state how these variants may be identified
- 18b. Give a summary of the variety's distinctness. Clearly state how this application variety may be distinguished from all other varieties in the same crop. If the new variety is most similar to one variety or a group of related varieties:
(1) identify these varieties and state all differences objectively;
(2) attach statistical data for characters expressed numerically and demonstrate that these are clear differences; and
(3) submit, if helpful, seed and plant specimens or photographs (prints) of seed and plant comparisons which clearly indicate distinctness.
- 18c. Exhibit C forms are available from the PVPO Office for most crops; specify crop kind. Fill in Exhibit C (Objective Description of Variety) form as completely as possible to describe your variety.
- 18d. Optional additional characteristics and/or photographs. Describe any additional characteristics that cannot be accurately conveyed in Exhibit C. Use comparative varieties as is necessary to reveal more accurately the characteristics that are difficult to describe, such as plant habit, plant color, disease resistance, etc.
- 18e. Section 52(5) of the Act requires applicants to furnish a statement of the basis of the applicant's ownership. An Exhibit E form is available from the PVPO.
19. If "Yes" is specified (*seed of this variety be sold by variety name only, as a class of certified seed*), the applicant **MAY NOT** reverse this affirmative decision after the variety has been sold and so labeled, the decision published, or the certificate issued. However, if "No" has been specified, the applicant may change the choice. (See *Regulations and Rules of Practice, Section 97.103*).
21. See Section 83 of the Act for the Contents and Term of Plant Variety Protection.
22. See Sections 41, 42, and 43 of the Act and Section 97.5 of the regulations for eligibility requirements.
23. See Section 5.5 of the Act for instructions on claiming the benefit of an earlier filing date.

21. CONTINUED FROM FRONT (Please provide a statement as to the limitation and sequence of generations that may be certified.)

22. CONTINUED FROM FRONT (Please provide the date of first sale, disposition, transfer, or use for each country and the circumstances, if the variety (including any harvested material) or a hybrid produced from this variety has been sold, disposed of, transferred, or used in the U.S. or other countries.)

23. CONTINUED FROM FRONT (Please give the country, date of filing or issuance, and assigned reference number, if the variety or any component of the variety is protected by intellectual property right (Plant Breeder's Right or Patent).)

U.S. Patent 4,940,835 issued to Shah et al. as per the Roundup Ready Gene in this variety

NOTES: It is the responsibility of the applicant/owner to keep the PVPO informed of any changes of address or change of ownership or assignment or owner's representative during the life of the application/certificate. There is no charge for filing a change of address. The fee for filing a change of ownership or assignment or any modification of owner's name is specified in Section 97.175 of the regulations. (See Section 101 of the Act, and Sections 97.130, 97.131, 97.175(h) of the Regulations and Rules of Practice.)

To avoid conflict with other variety names in use, the applicant must check the variety names proposed by contacting: Seed Branch, AMS, USDA, Room 213, Building 306, Beltsville Agricultural Research Center--East, Beltsville, MD 20705. Telephone: (301) 504-8089.

According to the Paperwork Reduction Act of 1995, an agency may not conduct or sponsor, and a person is not required to respond to a collection of information unless it displays a valid OMB control number. The valid OMB control number for this collection of information is (0581-0055). The time required to complete this information collection is estimated to average 1.4 hours per response, including the time for reviewing instructions, searching existing data sources, gathering and maintaining the data needed, and completing and reviewing the collection of information.

The U.S. Department of Agriculture (USDA) prohibits discrimination in all its programs and activities on the basis of race, color, national origin, gender, religion, age, disability, political beliefs, sexual orientation, and marital or family status. (Not all prohibited bases apply to all programs.) Persons with disabilities who require alternative means for communication of program information (Braille, large print, audiotape, etc.) should contact the USDA's TARGET Center at 202-720-2600 (voice and TDD). To file a complaint of discrimination, write USDA, Director, Office of Civil Rights, Room 326-W, Whitten Building, 14th and Independence Avenue, SW, Washington, DC 20250-9410 or call (202) 720-5964 (voice and TDD). USDA is an equal opportunity provider and employer.

S&T-470 (2-99) designed by the Plant Variety Protection Office with WordPerfect 6.0a. Replaces STD-470 (6-98) which is obsolete.

Exhibit A. Origin and Breeding History of the Variety**Soybean Variety 93B72**

Variety 93B72 evolved from a 1994 cross of
93B82/////W30132-004/////ST2250///9342//9341<2/A5403G40-3-2.

It is an F3-derived variety, which was advanced to the F3 generation by modified single-seed descent. The F4 progeny row of 93B72 was grown in the winter of 1995 in Chile. Subsequently, 93B72 has undergone four years of extensive testing and purification and has been observed by the breeder to be uniform and stable for all plant traits from generation to generation, with no evidence of variants. On the basis of resistance to Roundup branded herbicides and Phytophthora root rot resistance (Rps1k), and BSR resistance variety 93B72 was assigned a commercial number.

The purification block was grown during the summer of 1998 and 72 sublines were bulked for increase. Sixteen acres of 93B72 (breeders seed) were grown in the summer of 1999. Additionally, 50 acres were grown in both Chile and Argentina during the winter of 1999. 3,152 acres of parent seedstock (foundation seed equivalent) were grown in the summer of 2000 and approximately 141,840 bushels harvested.

Exhibit B. Statement of Distinctness**Soybean Variety 93B72**

Variety 93B72 is most similar to variety 93B82. Both have purple flowers and light tawny pubescence. However, 93B72 is resistant to Roundup branded herbicides and 93B82 is susceptible. Additionally, 93B72 and 93B82 differ in isozyme marker alleles at loci PHI1 (Table 1). Lastly 93B72 has yellow seeds with brown hila and 93B82 has yellow seeds with black hila.

Variety 93B72 is also similar to variety 93B84. Both have purple flowers, resistance to race 5 of *Phytophthora megasperma* var. *sojae* and resistance to Roundup branded herbicides. However, 93B72 has light tawny pubescence and yellow seeds with brown hila and 93B84 has tawny pubescence and yellow seeds with black hila.

Variety 93B72 is also similar to variety 9324. Both have purple flowers and yellow seeds with brown hila. However, 93B72 has light tawny pubescence color and 9324 has tawny pubescence. Additionally, 93B72 and 9324 differ in isozyme marker alleles at loci ACO4, IDH1, and PHI1 (Table 1).

Variety 93B72 is also similar to variety S36-U2 from Novartis Seeds. Both have purple flowers, yellow seeds with brown hila, and resistance to Roundup branded herbicides.. However, 93B72 has light tawny pubescence color and resistance to race 5 of *Phytophthora megasperma* var. *sojae* and S36-U2 has tawny pubescence and is susceptible to race 5 of *Phytophthora megasperma* var. *sojae*

Table 1. Isozyme marker loci data for 93B72.

Variety	Isozyme Marker											
	ACO2	ACO3	ACO4	ACP	DIA	ENP	IDH1	IDH2	MDH	MPI	PGM1	PHI1
Pioneer 93B72	M	1	3	A	B	A	2	1	B	A	1	2
Pioneer 9324	1	1	1	A	B	A	1	1	B	A	1	1
Pioneer 93B82	1	1	3	A	B	A	2	1	B	A	1	1

According to the Paperwork Reduction Act of 1995, an agency may not conduct or sponsor, and a person is not required to respond to a collection of information unless it displays a valid OMB control number. The valid OMB control number for this collection of information is (0581-0055). The time required to complete this information collection is estimated to average 30 minutes per response, including the time for reviewing instructions, searching existing data sources, gathering and maintaining the data needed, and completing and reviewing the collection of information.

The U.S. Department of Agriculture (USDA) prohibits discrimination in all its programs and activities on the basis of race, color, national origin, gender, religion, age, disability, political beliefs, sexual orientation, and marital or family status. (Not all prohibited bases apply to all programs.) Persons with disabilities who require alternative means for communication of program information (Braille, large print, audiotape, etc.) should contact the USDA's TARGET Center at 202-720-2600 (voice and TDD).

To file a complaint of discrimination, write USDA, Director, Office of Civil Rights, Room 326-W, Whitten Building, 14th and Independence Avenue, SW, Washington, DC 20250-9410 or call (202) 720-5964 (voice and TDD). USDA is an equal opportunity provider and employer.

U.S. DEPARTMENT OF AGRICULTURE
AGRICULTURAL MARKETING SERVICE
SCIENCE AND TECHNOLOGY
PLANT VARIETY PROTECTION OFFICE
BELTSVILLE, MD 20705

EXHIBIT C
(Soybean)

OBJECTIVE DESCRIPTION OF VARIETY
SOYBEAN (*Glycine max* (L.) Merr.)

NAME OF APPLICANT(S) Pioneer Hi-Bred International, Inc.	FOR OFFICIAL USE ONLY
ADDRESS (Street and No. or R.F.D. No., City, State, and ZIP Code) 7300 N. W. 62 nd Avenue P. O. Box 1004 Johnston, IA 50131	PVPO NUMBER 20010007
	VARIETY NAME 93B72
	TEMPORARY OR EXPERIMENTAL DESIGNATION

PLEASE READ ALL INSTRUCTIONS CAREFULLY: Place the appropriate number that describes the varietal character of this variety in the boxes below.

Place a zero in the first box (e.g.

9	9	9
---	---	---

 or

0	9
---	---

) when number is either 99 or less or 9 or less respectively. Data for quantitative

plant characters should be based on a minimum of 100 plants. Comparative data should be determined from varieties entered in the same trial. Royal

Horticultural Society or any recognized color standard may be used to determine plant colors; designate system used:

Please answer all questions for your variety; lack of response may delay progress of your application.

A. MORPHOLOGY

Seed Shape:

<table border="1"><tr><td>2</td></tr></table>	2	1 = Spherical (L/W, L/T, and T/W ratios < 1.2)	2 = Spherical-Flattened (L/W ratio > 1.2; L/T ratio < 1.2)
2			
	3 = Elongate (L/T ratio > 1.2; T/W ratio < 1.2)	4 = Elongate-Flattened (L/T ratio > 1.2; T/W ratio > 1.2)	

Seed Coat Color:

<table border="1"><tr><td>1</td></tr></table>	1	1 = Yellow	2 = Green	3 = Brown	4 = Black	5 = Other (Please Specify) _____
1						

Seed Coat Luster:

<table border="1"><tr><td>1</td></tr></table>	1	1 = Dull	2 = Shiny
1			

Seed Size:

<table border="1"><tr><td>1</td><td>6</td></tr></table>	1	6	grams/100 seeds
1	6		

Hilum Color:

<table border="1"><tr><td>3</td></tr></table>	3	1 = Buff	2 = Yellow	3 = Brown	4 = Gray	5 = Imperfect Black
3						
	6 = Black	7 = Other (Please Specify) _____				

A. MORPHOLOGY (Continued)

200100071

Cotyledon Color:

☐ 1 = Yellow 2 = Green

Seed Protein Peroxidase Activity:

☐ 2 1 = Low 2 = High

Hypocotyl Color:

☐ 4 1 = Green 2 = Green with Bronze 3 = Light Purple 4 = Dark Purple extending to
('Evans' or 'Davis') Bands below Cotyledons below Cotyledons unifoliolate leaves ('Hodgson',
('Woodworth' or 'Tracy') ('Beeson' or 'Pickett 71') 'Coker', or 'Hampton 266A')

Leaflet Shape:

☐ 3 1 = Lanceolate 2 = Oval 3 = Ovate 4 = Other (Please Specify) _____

Flower Color:

☐ 2 1 = White 2 = Purple 3 = White with a Purple Throat

Pod Color:

☐ 1 1 = Tan 2 = Brown 3 = Black

Pubescence Color:

☐ 3 1 = Gray 2 = Brown (Tawny) 3 = Light Tawny

Plant Habit:

☐ 3 1 = Determinate 2 = Semi - Determinate 3 = Indeterminate 4 = Intermediate

Maturity Group:

<input type="checkbox"/> 0	<input type="checkbox"/> 6	1 = 000	2 = 00	3 = 0	4 = I	5 = II
		6 = III	7 = IV	8 = V	9 = VI	10 = VII
		11 = VIII	12 = IX	13 = X	14 = XI	15 = XII

Maturity Subgroup:

☐ 7 Please enter a value from 0 - 9

B. DISEASE REACTIONS

0 = Not Tested 1 = Susceptible 2 = Resistant 3 = Tolerant

Bacterial

☐ 0 Bacterial Pustule (*Xanthomonas campestris* pv. *glycines* (Nakano) Dye)

☐ 1 Bacterial Blight (*Pseudomonas syringae* pv. *glycinea* (Coerper) Young, Dye, & Wilkie)

☐ 0 Wildfire Blight (*Pseudomonas syringae* pv. *tabaci* (Wolf & Foster) Young, Dye, & Wilkie)

B. DISEASE REACTIONS (Continued)

0 = Not Tested

1 = Susceptible

2 = Resistant

3 = Tolerant

200100071

Fungal

Brown Spot (*Septoria glycines* Hemmi)

Frogeye Leaf Spot (*Cercospora sojina* Hara)

race 1

race 2

race 3

race 4

race 5

race 6

Other (Please Specify) _____

Target Spot (*Corynespora cassicola* (Berk. & Curt.) Wei)

Downey Mildew (*Peronospora trifoliorum* var. *manchurica* (Naum.) Syd. ex Gäum)

Powdery Mildew (*Microsphaera diffusa* Cke. & Pk.)

Brown Stem Rot (*Phialophora gregata* (Allington & Chamberlain) W. Gams.)

Stem Canker (*Diaporthe phaseolorum* (Cke. & Ell.) Sacc. var. *caulivora* Athow & Caldwell)

Pod and Stem Blight (*Diaporthe phaseolorum* (Cke. & Ell.) Sacc. var. *sojae* (Lehman) Wehm.)

Purple Seed Stain (*Cercospora kikuchii* (T. Matsu. & Tomoyasu) Gardener)

Rhizoctonia Root Rot (*Rhizoctonia solani* Kühn)

Phytophthora Root Rot (*Phytophthora megasperma* Drechs. f. sp. *glycinea* (Kuan & Erwin))

race 1

race 8

race 15

race 22

race 2

race 9

race 16

race 23

race 3

race 10

race 17

race 24

race 4

race 11

race 18

race 25

race 5

race 12

race 19

race 26

race 6

race 13

race 20

Other (Please Specify) _____

race 7

race 14

race 21

Bud Blight (Tobacco Ringspot Virus)

Yellow Mosaic (Bean Yellow Mosaic Virus)

B. DISEASE REACTIONS (Continued) 0 = Not Tested 1 = Susceptible 2 = Resistant 3 = Tolerant

Cowpea Mosaic (Cowpea Chlorotic Virus)

Pod Mottle (Bean Pod Mottle Virus)

Seed Mottle (Soybean Mosaic Virus)

Nematode

Soybean Cyst Nematode (*Heterodera glycines* Ichinohe)

<input type="text" value="0"/> race 1	<input type="text" value="0"/> race 4	<input type="text" value="0"/> race 9
<input type="text" value="0"/> race 2	<input type="text" value="0"/> race 5	<input type="text" value="0"/> race 14
<input type="text" value="0"/> race 3	<input type="text" value="0"/> race 6	<input type="text" value="0"/> Other (Please Specify) _____

Lance Nematode (*Hoplolaimus columbus* Sher)

Southern Root Knot Nematode (*Meloidogyne incognita* (Kofoid & White) Chitwood)

Northern Root Knot Nematode (*Meloidogyne hapla* Chitwood)

Peanut Root Knot Nematode (*Meloidogyne arenaria* (Neal) Chitwood)

Reniform Nematode (*Rotylenchus reniformis* Linwood & Olivera)

Javanese Nematode (*Meloidogyne javanica* (Treub) Chitwood)

Other Nematode (Please Specify) _____

C. PHYSIOLOGICAL RESPONSES 0 = Not Tested 1 = Susceptible 2 = Resistant 3 = Tolerant

Iron Chlorosis on Calcareous Soil

Phosphorus Other (Please Specify) _____

Boron

Aluminum

Salt

Drought

D. INSECT REACTIONS

0 = Not Tested

1 = Susceptible

2 = Resistant

3 = Tolerant

Mexican Bean Beetle (*Epilachna varivestis* Mulsant)Potato Leaf Hopper (*Empoasca fabae* (Harris))

Other (Please Specify) _____

E. HERBICIDE REACTIONS

0 = Not Tested

1 = Susceptible

2 = Resistant

Metribuzin

Bentazone

Sulfonylurea

Glyphosate

Glufosinate

Pendimethalin

Other (Please Specify) _____

F. TRANSGENIC COMPOSITION

Has the development of the subject variety included the insertion of genetic material from an organism other than a soybean, or, the removal of genetic material from the application variety?

If yes, please complete the following information requests*. Use additional pages if necessary.

☐

YES

☐

NO

1. Please state the vector's name:

2. Please state the vector components:

3. Please describe the genetic material successfully transferred into the subject variety:

4. Please describe the insertion protocol:

*A literature citation(s) explaining the four information requests above may be an acceptable alternative to completion of the "Transgenic Composition" portion of this form.

This section is fully address in the following publication. Specific details of the vector components and insert elements are summarized in Figure 1 and Table 1 on page 1453.

Padgett, S.R. et al. Development, Identification, and Characterization of a Glyphosate-Tolerant Soybean Line. 1995. Crop Science. 35:1451-1461

G. BIOCHEMICAL MARKERS

200100071

Please describe any biochemical information here, which you believe will be helpful in further describing the subject variety (e.g. Simple Sequence Repeats, Restriction Fragment Length Polymorphisms, Isozymic Characterization). Use additional pages if necessary.

H. COMMENTS

Exhibit D. Additional Description of the Variety

Soybean Variety 93B72

In Exhibit C we have identified variety 93B72 as susceptible to bacterial blight, brown spot, pod and stem blight, rhizoctonia root rot, bud blight, yellow mosaic, cowpea mosaic, pod mottle and seed mottle.

This does not mean that variety 93B72 is any worse for these problems than other varieties of similar maturity. Rather, we do not consider 93B72 to be immune to these problems. Therefore, we have chosen to be conservative and have identified the line as "susceptible".

Variety 93B72 is a late Group III variety. If Group III varieties are divided into tenths, the relative maturity of 93B72 is 3.7.

U.S. DEPARTMENT OF AGRICULTURE
AGRICULTURAL MARKETING SERVICE

The following statements are made in accordance with the Privacy Act of 1974 (5 U.S.C. 552a) and the Paper Reduction Act (PRA) of 1995.

EXHIBIT E
STATEMENT OF THE BASIS OF OWNERSHIP

Application is required in order to determine if a plant variety protection certificate is to be issued (7 U.S.C. 2421). The information is held confidential until the certificate is issued (7 U.S.C. 2426).

1. NAME OF APPLICANT(S) Pioneer Hi-Bred International, Inc.	2. TEMPORARY DESIGNATION OR EXPERIMENTAL NUMBER	2. VARIETY NAME 93B72
4. ADDRESS (Street and No., or R.F.D. No., City, State, and ZIP, and Country) 7300 NW 62 nd Avenue P. O. Box 1004 Johnston, IA 50131-1004	5. TELEPHONE (Include area code) 515-254-2638	6. FAX (Include area code) 515-253-2288
7. PVPO NUMBER 200100071		

8. Does the applicant own all rights to the variety? Mark an "X" in the appropriate block.
If no, please explain.☒ YES ☐ NO9. Is the applicant (individual or company) a U.S. National or a U.S. based company?
If no, give name of country☒ YES ☐ NO

10. Is the applicant the original owner?

☒ YES ☐ NO

If no, please answer one of the following:

a. If the original rights to variety were owned by individual(s), is (are) the original owner(s) a U.S. National(s)?

☐ YES ☐ NO

If no, give name of country

b. If the original rights to variety were owned by a company(ies), is (are) the original owner(s) a U.S. based company?

☐ YES ☐ NO

If no, give name of country

11. Additional explanation on ownership (If needed, use the reverse for extra space):

Please Note:

Plant variety protection can only be afforded to the owners (not licensees) who meet the following criteria:

1. If the rights to the variety are owned by the original breeder, that person must be a U.S. national, national of a UPOV member country, or national of a country which affords similar protection to nationals of the U.S. for the same genus and species.
2. If the rights to the variety are owned by the company which employed the original breeder(s), the company must be U.S. based, owned by nationals of a UPOV member country, or owned by nationals of a country which affords similar protection to nationals of the U.S. for the same genus and species.
3. If the applicant is an owner who is not the original owner, both the original owner and the applicant must meet one of the above criteria.

The original breeder/owner may be the individual or company who directed the final breeding. See Section 41(a)(2) of the Plant Variety Protection Act for definitions.

According to the Paperwork Reduction Act of 1995, no persons are required to respond to a collection of information unless it displays a valid OMB control number. The valid OMB control number for this information collection is 0581-0055. The time required to complete this information collection is estimated to average 6 minutes per response, including the time for reviewing the instructions, searching existing data sources, gathering and maintaining the data needed, and completing and reviewing the collection of information.

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